

REMARKS

1. Applicant acknowledges withdrawal of the 35 USC 103(a) rejection of claims as being unpatentable over Wang et al (US Patent No. 5,935,880) in view of Anderson et al (US Patent No. 6,315,864 B2).

2. In response to the 35 USC 112 rejection of claim 1 as indefinite because of presence of the terms "squeezing pressure," in the phrase "and after release of squeezing pressure,"-- that phrase in claim 1 as well as in claims 2, 23 and 24 has been changed to read -- and after being squeezed by the user to deliver liquid and then released --.

For basis in the application, Applicants call attention to the specification, page 3, lines 13-29

"In important embodiments, the creping with heat set increases the recoverable internal volume of the nonwoven fabric. By "recoverable volume" is meant, that, after being squeezed to deliver liquid, and then released, the liquid carrying volume is recoverable, i.e. the web swells by itself, or when it imbibes liquid, its internal volume swells, so that a significant volume of the liquid is retained. This recoverable volume characteristic of the heat set, creped product increases the ability of the wipe material to adsorb liquids. Further, to the degree the adsorption is increased, it is important to note that the reciprocal ability to desorb liquids is increased. Thus a treated wipe can adsorb a liquid, then when squeezed or subjected to wipe pressure, it can desorb to deliver the liquid to the surface being wiped, subsequent to which it can resorb the liquid to remove liquid along with picked-up contaminant from the wiped surface. Both sorbing and desorbing characteristics of the web are increased by the creped, heat set thermoplastic network of fibers in assemblies that have wettable fibers with appropriate wicking capability. In important embodiments, the aggregate interstitial space between adjacent fibers, and accordingly the overall internal volume of the wipe, is increased by the heat set creping. The treatment enables improved liquid adsorption, desorption and resorption, likened to an effective pumping action, with respective relaxation, compression, and relaxation of compressive action of the user upon the surface being wiped." [Emphasis ours]

3. Furthermore, the claims have been clarified by amendment that the product is the result of microcreping of the type in which the web while being introduced dry, has been pressed with a converging pressing surface against a heated, gripping drive surface so that it is

progressively driven forward to progressively collapse into the ridge and groove structure while at heat-set temperature so that heat-setting progressively, simultaneously occurs.

Thus the revised claims more accurately reflect the invention and distinguish the prior art.

4. By the Examiner's withdrawal of the rejection based upon Wang et al in view of Anderson et al, Applicant understands that the Examiner now agrees that those references do not teach the invention as claimed. However, further clarification is appropriate, to ensure the Examiner also realizes that the Anderson mention of "microcreping", based on use of a Yankee dryer, is fundamentally different from the usage of the term by applicant. As made explicitly clear in the claims, the microcreping process that results in Applicants' inventive product requires pressing the dry web with a converging pressing surface against a gripping drive surface to drive the dry web forward for collapsing of the dry web into the ridges and grooves. A production process involving such pressing and gripping is not at all fairly disclosed by Anderson et al.

5. The Examiner has made a new section 103(a) rejection of the claims prior to the present clarifying amendment, based on the addition of new reference, Moore (US Patent No. 4,286,030), in the rejection: Wang et al in view of Moore and Anderson.

The grounds given for the rejection are that "Moore discloses that when a resin is cured, the resin heat sets" (column 10, lines 22-28), and that, though Wang et al fail to disclose a web that is microcreped, "Anderson et al teach the microcreping of a web (column 13, lines 60-64)." [Emphasis ours]

6. We submit that this rejection is not sustainable on two clearly separate grounds, as well as the grounds in combination, (a) the inapplicability of Anderson et al, properly understood and (b) the lack of teaching of Moore, since Moore deals with the setting of thermoset resins in flat sheets for making battery separators, not being involved with heat-setting (as properly understood) of thermoplastic resins nor relating to wet wipes as required in the claims; nor does Moore fairly teach microcreping and simultaneous, progressive heat setting of the thermoplastic constituent to make wet wipes, as required by the claims.

a) Inapplicability of Anderson et al to the Amended Claims.

As indicated above, the Anderson et al loose use of the word "microcreping," in referring to a Yankee drier process, should not cause the examiner to take his eye off the ball, i.e. the Examiner must admit that Anderson is not directed to "microcreping" as required by the claims, in which the web while being introduced dry is required to be pressed with a converging pressing surface against a gripping drive surface to be driven forward to progressively collapse into the distinctive ridges and grooves characteristic of such microcreping.

The industry well recognizes microcreping of the type required by the present claims. We refer for instance to 3-M's US patent 6, 086,911, copy of which is appended to this response as Exhibit 1. At column 3, line 4, et seq: " In the process the web, supported by a main roll, is introduced into a converging passage, firmly gripped, and conveyed into the main treatment cavity where the microcreping process takes place."

(b) Lack of Teaching of Moore Relevant to the Amended Claims

The passage of Moore that the Examiner cites is column 10, lines 22-28: "Following saturation and drying the phenolic saturated sheet was formed into a ribbed structure at station 51 in the manner substantially as illustrated in U.S. Patent No. 3,340,100 and thereafter fully cured to heat set the phenolic resin in oven 52 at 270 C." This is in the context of forming a battery separator, not at all related to forming wet wipe. The phenolic is resin impregnated in a planar sheet, and the curing referred to is the irreversible curing that thermoset resin undergoes.

A copy of the further patent No. 3,340,100 referred to in the passage cited by the Examiner is appended hereto as Exhibit 2. It too is unrelated to forming wet wipes, and has nothing to do with progressive microcreping and heat setting of thermoplastic constituents in the production of wet wipes. It reveals a planar sheet impregnated with phenolic resin, to which are applied ribs of another resin.

In the arguments we have referred to "permanence" of the ridge and groove structure. It is clear from our context that the "permanence" of the ridges and grooves is permanence under wet conditions, i.e., of use of a wet wipe in wiping surfaces. The term is clearly not intended to refer to the curing of thermoset resins. The essence of Applicants' invention is the reshaping of the thermoplastic constituents of the web produced by dry microcreping (as defined in the

claims), in conjunction with heating that enables that new shape to be retained in the cooled wet wipes product, and under conditions of wetting of the wet wipe. See the Wikipedia definition of "thermoplastics" attached hereto as Exhibit 3.

The citation of Moore is therefore submitted to be an irrelevant digression.

7. Applicant of course agrees that heat setting of thermoplastic components of a microcreped sheet are known per se in other contexts. Indeed see the above cited 3-M patent 6,086,911, at column 3, lines 16-23. What has not been appreciated by anyone in the art to which the present invention pertains is the significant improvement of wet wipe products achievable by heat set of dry-formed microcreped ridges and grooves formed as recited in the claims!!!

(3-M uses the terms "heat set" and the synonyms "set" and "temperature set" to refer to the same phenomenon involved here, i.e., the heating of deformed fibers to a specific temperature for a time sufficient to "set" the thermoplastic web structure for a new orientation.)

8. Given the proper understanding of Andersen et al., pointed out by Applicants, Applicants urge reconsideration of the arguments set forth in the previous response in respect of the dependent claims. We submit the patentability of those claims has been established on the specific grounds presented for the respective claims.

9. For the above reasons the Examiner is urged to acknowledge the patentability of all claims under examination, as amended, and pass the application to issue forthwith.

10. This amendment and response is being filed within two months of the date of the final rejection. It is believed to put the application in condition for allowance. If the Examiner disagrees he is requested to telephone Applicant's attorney with the object to reach agreement on the allowance of claims or agree upon issues to be addressed upon Appeal.

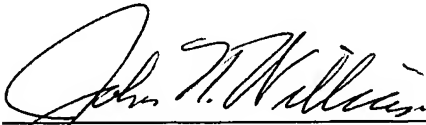
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Respectfully submitted,

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